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ABSTRACT

The difference model of reading disability was used to generate three research hypotheses for testing the relationship between language development (syntactic maturity) and reading achievement at the secondary school level. This model assumes that reading difficulties are attributable to differences or mismatches between the reader's response modes and the patterns of response necessary for comprehension of the text. Subjects were 86 ninth grade students in four remedial reading classes. For various reasons, only 55 students remained throughout the 24-week experiment. The four classes were divided into three experimental groups and one control group. The first experimental group received the total treatment--reading while listening and daily exercises in syntactic manipulation--for 55 minutes per school day. The second group received only reading while listening, and the third group only the syntactic training, each for 25 to 30 minutes per day. The remainder of the instruction for these two "half experimental" groups and the total instruction for the control group followed the traditional secondary level remedial reading format. Analyses of data collected in the study indicated that none of the experimental treatments significantly affected the reading achievement of the subjects. However, the students' ability to understand and manipulate written syntax, as measured by several tests of syntactic maturity, did significantly improve. (RL)

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Improving the Language Facility of Disabled Secondary Readers

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Improving the Language Facility of Disabled Secondary Readers

I. Statement of the Problem

Whether purposefully or not, children begin to communicate from nearly the moment of birth. As they mature physically and cognitively and begin to interact with their environments, children's communication systems expand and are refined. Several theories of language development predict different dominant influences in the development and use of language. Recently, some writers have begun to argue for a language development theory which acknowledges the influence of several factors. Indeed, it seems logical to assume that many factors could influence the child's developing language.

By the time they enter school, most children can use and understand their language in a manner which suits their purposes and needs. Formal reading instruction adds another dimension to language development. In making the transition from utterance to text (Olson, 1977), children should be able to apply their vast knowledge of language to the problem of reconstructing meaning from printed symbols on a page. This transition, however, may be complicated by the fact that children must learn the conventions of print while they are learning to read. In other words, children must come to understand and use the more formal aspects of written English while they are learning to read.

For most children, the transition from utterance to text is a smooth one. But some children experience difficulty in learning to read and developing into mature readers. While many explanations for these difficulties have been posited (Harris and Sipay, 1976), it is possible that one has been overlooked: reading difficulty may be fundamentally related to language use. Students may have difficulty finding meaning in print because they are unable to make the transition from utterance to text.

This inability may be more prevalent in students whose oral language patterns differ significantly from written English patterns. Bernstein (1959, 1960, 1961, 1970) has described two different linguistic "codes" that seem to be related to social class: restricted codes and elaborated codes. Communication by restricted code, usually associated with lower social classes, is characterized by concreteness and use of extra-verbal cues. Elaborated code users are more frequently middle and upper class speakers. The elaborated code speaker uses language to explicate context, so that meaning tends to be more universal and freed from assumptions of communality.

Because the characteristics of the elaborated code more closely match the characteristics of text, elaborated code users may experience less difficulty with the transition from utterance to text than their restricted code counterparts. Conversely, unfamiliarity with elaborated code (and text) may be related to reading difficulty. It seems logical to assume

that these initial difficulties could become more severe as students progress through school. Unfamiliarity with the code of communication could hamper students' efforts to reconstruct meaning in written material. Without meaningful material to learn from, skill in reading may be short-circuited. Thus, unless the restricted code user can learn to understand the elaborated code of written English, his/her progress in reading may be impeded.

Restricted code speakers who experience difficulty in reading could be described by means of the difference model (Wiener and Cromer, 1967). This model assumes that reading difficulty may be attributable to differences or mismatches between the students' mode of responding and that which is more appropriate to understanding the text. Because their typical language use differs markedly from the text from which they must learn, these students may become disabled readers. If reading disability is attributable to this difference between the reader's language and the language of the text, then perhaps differences could be minimized by either changing the text or helping the reader understand other language patterns. While attempts to change text have had mixed success, some of these changes are impractical for classroom situations. Thus, the possibility of changing the reader's ability to understand complex aspects of the text should be explored.

Most remedial efforts are currently aimed at changing the reader's ability to interact with text by providing direct in-

struction in vocabulary or comprehension. This type of instruction may not be the most efficient way to help "difference" poor readers. Differences between restricted and elaborated codes and between utterances and text may involve deep structure syntax and semantics rather than such elements as word meaning and literal comprehension. If this is the case, an attempt to familiarize restricted code users with these deep structure aspects may improve their reading achievement.

The present study was designed to test these assumptions. Specifically, the relationship between syntactic maturity -- the ability to understand, use, and manipulate various syntactic structures of English -- and reading achievement was explored. The purpose of this experiment was to acquaint students with the complex syntax found in written English by providing them with: a) reading while listening to literature which is beyond their instructional levels of reading achievement; and b) instruction and practice in syntactic manipulation. It was hypothesized that these treatments would improve students' ability to understand complex syntax and that this, in turn, would effect an increase in general reading achievement.

Because patterns of language development and use are the results of lifelong habits, attempts to acquaint students with unfamiliar aspects of language must necessarily occur over extended periods of time. Thus, the experiment was conducted in public school classrooms during two-thirds of one school year. Such action research has limitations, but may be the

most expedient vehicle for the necessary long-term treatment.

In sum, the difference model of reading disability was used to generate the following research hypotheses about the relationship between language development and reading achievement at the secondary level:

1. The experimental treatment will significantly improve the students' reading achievement levels.
2. The experimental treatment will significantly improve the students' levels of syntactic maturity.
3. There will be significant positive correlations between these disabled readers' levels of syntactic maturity and their reading achievement levels.

II. Review of Related Research

Language Acquisition and Development

Children acquire language naturally, in the course of maturing and developing in an environment where they are adequately exposed to it (Chomsky, 1976). This view of language acquisition and development represents a synthesis of what were, at one time, four distinctly separate theories of language acquisition. Osser (1970) describes the four theories as follows:

1) Nativist position: In arguing that language development is a function of maturational factors, proponents of the nativist position cite parallels between language and motor development in children from 12 weeks to 4 years old. Nativists

contend that language cannot begin to develop until the child has reached a certain level of physical maturation and growth. Evidence in support of the nativist position is that prelinguistic sound-making is similar in deaf and hearing infants. Nativists view this phenomenon as proof that the emergence of prelinguistic behavior is not due to social factors, such as training and reward, but rather due to maturational factors.

2) Environmentalist position: Environmentalists argue that imitation and reinforcement are at the core of language acquisition and development. The child imitates the language utterances of others and, after being reinforced for this behavior, begins to acquire those utterances as his/her own. Unique language productions are a function of this same process. Because certain behaviors have been reinforced, the child comes to generalize responses to new stimulus situations.

3) Psycholinguistic position: Psycholinguists maintain that children acquire language by discovering its underlying system of grammatical rules. Each child has a built-in set of specifications for correct grammars plus a testing capacity which permits discovery of appropriate linguistic utterances. For example, young children tend to overgeneralize as they learn preferred usage. A child may correctly use "came" until he/she discovers that many verbs form past tense by the "+ed" rule. For some time the child generalizes this rule to all verbs, and "came" becomes "comed." Eventually, of course, the child learns exceptions to the "+ed" rule and readopts "came."

Psycholinguists, then, maintain that the child views language as orderly and strives to discover its rules.

4) Sociolinguistic position: This theory incorporates sociological influences with the psycholinguistic view of language development. Sociolinguists maintain that language development and use is affected by social factors. Certain linguistic structures are developed and used because they are valued in the child's family or social environment. Conversely, those aspects of language not valued in the child's social environment may not develop or be used at all.

An acceptable theory of language development should consider both initial acquisition and subsequent use. It appears that none of these theories, considered in isolation, can sufficiently predict how children develop prelinguistic vocalizations, acquire basic language structures as well as elaborate language sequences, and acquire styles of communication which are appropriate for different social situations. As a child learns to use and understand language, he/she is undoubtedly influenced by social factors which combine with physical and cognitive factors to mold the direction of future language development. Ruddell (1976, p. 22) presents a succinct description of how physical, cognitive, and social factors influence language development: "Assuming that latent language structures are present and basic to the development of grammatical competency and language performance, it is also logical to assume that value stems from consistent social reinforcement and sentence expansion opportunities in

refining and extending child grammar as well as lexicon."

Similarly, Branigan and Stokes (1976), in describing language acquisition as a creative process, stress the interrelationship of physical, cognitive, psychological, and social factors in language development. They maintain that children approach the task of language acquisition with specific predispositions to perceive and organize speech sounds in a linguistically relevant fashion. Children also integrate linguistic and social experiences to formulate hypotheses regarding the rules of language form and use. These hypotheses are then tested against linguistic information available under the demands of social interaction.

Children's language acquisition and development, then, appears to be influenced by both external and internal factors. The school-aged child is a sophisticated user of language, yet his/her language is still developing. Studies by Chomsky (1972, 1976) and Loban (1976) has established that language expansion and refinement occur well beyond the child's entrance to school. In testing 5 to 10-year-old children's awareness of unusual syntactic structures, Chomsky found that linguistic development seems to pass through stages which are sequentially, but not temporally related.

Loban conducted a longitudinal study of the language development of 211 children. They study began when the children were in kindergarten and ended when they were in twelfth grade. Each child's oral speech was tape-recorded and analyzed annually

during the study. On the basis of this analysis and an analysis of the students' writing, Loban concluded that children's language performance improves as they get older. Specifically, Loban found a decrease in incomplete syntactic structures with age, while variety within and between sentence structures tended to increase. In general, in all measures of oral and written language, children showed a steady growth in elementary school years, a plateau or slower pace in grades seven and eight, and then greater growth again in high school.

Kramer and others (1972) give further evidence that language development extends over a long period. They tested subjects between the ages of eight and twenty for their competence on an exceptional syntactic construction and then retested some of the original subjects two years later. Their results "give no basis for support of the hypothesis that Ss tested originally at ages 12-13 and under would be more likely to pick up the exceptional structure than would older Ss" (p. 127). In fact, all age groups improved. Likewise, in studying the naturalistic acquisition of Dutch by English speakers of different ages, Snow and Hoefnagel-Höhle (1979) found no support for the critical period hypothesis of language acquisition. Of all age groups studied, 12-15-year-olds made the fastest progress in acquiring Dutch during the first few months and had achieved the best control at the end of a year. As Sandra Stotsky has concluded (1975, p. 47), "On the basis of these and many other studies it seems clear that oral and written syntactic growth continue well into adolescence and beyond."

Cognitive and Social Influences on Language Development

While the overall trend in language development seems to be a general but gradual consolidation of language structures, Palermo and Molfese (1972) have identified two periods where children tend to make sudden changes in performance. During kindergarten and first grade, children add many new constructions to their language; during fifth through seventh grade, children's language shows dramatic increases in the use of previously rare constructions. Because these two periods correspond so closely to changes in Piaget's stages of cognitive development, these authors conclude that there may be a close relationship between general cognitive development and production of new syntactic forms.

Experimental studies have supported this conclusion. Lackner (1968) compared language comprehension and production in cognitively deficient children with that of normal children of similar mental age. This research revealed that retarded children develop language in the same sequence as normal children but they take longer periods of time between major developmental stages. Prawat and Jones (1977) assigned children to three groups on the basis of their performance on a standardized Piagetian test of cognitive development. They were then tested later for sentence comprehension. The results showed significant differences in the three groups' performance on the sentence completion task, leading the researchers to conclude that cognitive development is an important factor in language development.

Branigan and Stokes (1976) also consider cognitive influences on language development. They maintain that language knowledge is developed through a four-step process: generalization, differentiation, categorization, and hierarchical organization. These cognitive competencies must, however, be considered in a social context. Social interactions can influence language development in at least three ways: by establishing communicative functions of language, by providing models of form and use, and by placing demands upon speakers to communicate effectively.

Bernstein (1959, 1960, 1961, 1970) has investigated the relationship between social influences and language development in some depth. He argues that different forms of social relations predispose speakers toward different speech systems or linguistic codes, which, in turn, result in different orders of relevance and relation. He has identified two linguistic codes, which may result in different ways of relating to objects and people: restricted and elaborated codes. These ways of using language seem to be related to social class, with restricted codes usually associated with lower social classes and elaborated codes associated with middle and upper classes.

The restricted code is characterized by reliance on extraverbal cues, such as tone of voice, gesture, facial expression, shared experiences, and/or common assumptions (Sawyer, 1975). Restricted code communication tends to be concrete and context-bound. Use of the restricted code progressively orients the

speaker toward descriptive rather than abstract concepts (Bernstein, 1960). The elaborated code speaker, on the other hand, uses language to explicate context. Meanings are more universal and freed from assumptions of communality (Sawyer, 1975).

In an attempt to further define these codes, Williams and Naremore (1969) classified responses made by 40 children in interviews. They found that middle class children who were elaborated code speakers usually went beyond minimal responses, while lower class children who were restricted code speakers tended to focus less attention and impose less organization on the topic. They concluded that social class groups may differ less in formal linguistic development than in communication development, the kinds of demands placed upon a child for using his/her linguistic knowledge. Likewise, Bernstein (1970) maintains that code differences are not a result of varied lexicons or tacit understandings about rule systems: "What we have here are differences in the use of language arising out of specific context" (1970, p. 27).

We might point out that both the restricted and elaborated codes are adequate for oral communication. For the reasons noted above, however, restricted code users may experience difficulty using and understanding the elaborated code. This potential difficulty does not seem to be reversible; that is, elaborated code speakers are able to use and understand restricted codes.

Reading Disability: The Difference Model

While children are learning to read, they must also learn to make the transition from utterance to text (Olson, 1977); that is, children must learn to find meaning in written language which differs in varying degrees from their oral language. The differences between written and oral language are marked. Speakers, for example, often rely upon prosodic or paralinguistic cues. Olson (1977, p. 272) describes interpretation of oral utterances in terms of the following: "agreed-upon lexical and syntactic conventions; a shared knowledge of events and preferred way of interpreting them; a shared perceptual context; and agreed upon prosodic features and paralinguistic conventions." Comprehension of oral language is based, to a certain extent, upon common intuition and knowledge.

Conversely, written language, or text, must be understood in contexts other than that in which it was written. Comprehension of text requires agreed upon linguistic conventions, shared knowledge about the world, and a preferred way of interpreting events (Olson, 1977). Whereas comprehension of oral language may be founded upon common sense or intuition, prose text appeals to premises and rules of logic for deriving implications.

Olson's descriptions of utterances and text bear some striking similarities to Bernstein's descriptions of restricted and elaborated codes. Both utterances and restricted codes, for example, tend to be more concrete, context-bound, and less generalizable than text or elaborated codes. In addition, extra-

verbal cues are often necessary for comprehension of utterances and restricted codes; this is not the case for elaborated codes or text. These parallels between utterances and restricted codes and between elaborated codes and text may be especially crucial as children learn to read and develop into mature readers.

As children learn to read, they must also learn the conventions of print. This transition requires children to treat the text as an autonomous representation of meaning. Most children eventually learn to treat text as language, learn to reconstruct meaning from text, and are able to use written language for developing and refining reading ability. Because the characteristics of the elaborated code are more similar to text characteristics, elaborated code speakers may experience less difficulty with the transition from utterance to text than restricted code speakers. Children who are only familiar with restricted codes may have difficulty understanding text because they have had no practice in using elaborated codes (Sawyer, 1975). "Thus between the school and community of the working-class child there may exist a cultural discontinuity based upon two radically different systems of communication" (Bernstein, 1970, p. 29).

Some restricted code speakers may, therefore, find a barrier between themselves and competence in reading: unfamiliarity with the code of communication. This unfamiliarity, if left unchecked, could hamper the student's progress in reading. Reading development might be impeded if the student needed to focus most of his/her attention on understanding the linguistic

conventions of written text.

Traditional explanations of reading disability generally ignore this possiblity by focusing on defects, deficiencies, or disrupting influences within the reader (Wiener and Cromer, 1967). The defect model assumes that problems are caused by a relatively permanent physical or cognitive malfunction within the reader, while the deficiency model finds the student lacking in some skill or process, such as word knowledge, which must be added before reading achievement can progress. The disruption model assumes that some disruptive behavior (e.g., anxiety) is intergering with normal progress. None of these explanations of reading disability can adequately explain the plight of the restricted code speaker who cannot understand the underlying syntax and assumptions of written text.

Reading difficulties which are caused by inability to understand the linguistic conventions of text can be explained by considering a fourth model of reading disability, the difference model (Cromer and Wiener, 1966; Wiener and Cromer, 1967; Cromer, 1970). This model assumes that difticulties are attributable to differences or mismatches between the reader's response modes and the patterns of response necessary for comprehension of the text. "Differences among readers in their ability to identify a sequence correctly may be explained by differences in response availabilities rather than by differences in visual inputs" (Wiener and Cromer, 1967, p. 637; emphasis ours).

A restricted code user who has reading difficulties could clearly fit the above statement about difference poor readers. This reader expects different cues than the text offers and may thus be unable to comprehend the text. If poor readers have difficulty employing the verbal code of text, they may have to rely more heavily upon the visual code. In other words, a reader who is unfamiliar with the deep structure semantic and syntactic assumptions of the text may have to rely upon surface structure meanings. Vellutino (1977) has cited these language differences as a possible cause of comprehension difficulties. He hypothesizes that poor readers neither code (label) nor synthesize (chunk) information for effective storage and retrieval as readily as average readers because of differences in one or more aspects of language.

Reading Disability: Coding and Synthesizing Text

There is some experimental evidence to suggest that good and poor readers do differ in their ability to code and synthesize text. Cromer and Wiener (1966), for example, hypothesized that poor readers would respond to text more idiosyncratically than good readers, expecially if the text were personal or encouraged affective response. Fifth graders' responses to cloze and word-association tasks on neutral and affective stories, each written in both first and third person, confirmed the notion of idiosyncracy. These authors concluded that reading difficulty may result if the reader's pattern of cue elaboration is somehow deviant and does not match the printed material.

Weinstein and Rabinovitch (1971) hypothesized that good and poor readers would be equally facile at paired associates nonsense syllables tasks, but that if syntax were introduced, good readers' performances would improve while that of poor readers would not. The researchers found that good readers learned structured lists in fewer trials than unstructured lists. This facilitative effect on retention associated with syntactic structure was not evident in poor readers. In a related study, Wiig, Semel, and Crouse (1973) compared responses of poor and average 9-year-old readers on a test of morphological usage. They found that poor readers not only gave fewer correct responses, but also that their error patterns were less predictable, suggesting that poor readers were using fewer grammatical rules. The results of these studies imply that good and poor readers may differ in their ability to code text and that these differences may be due to unfamiliarity with syntactic structures or to different response tendencies.

Differences between good and poor readers' abilities to chunk text into meaningful units has also been explored. Cromer (1970) studied such a problem with good and poor college readers. Text was presented to these students as sentences, single words, meaningful phrases, or fragmented groupings (nonmeaningful phrases). Cromer found that poor readers' performance matched that of good readers for only the meaningful phrase condition. These results suggest that some poor readers may lack the independent ability to organize text into meaningful units. If a

student has never adequately learned to process text in meaningful units, he/she will not comprehend what is read in the most efficient manner (Cromer, 1970). This organizational difficulty could be due to inability to process either syntax or semantics at the deep structure level. While facility with both syntax and semantics is necessary for proficient reading, there is some evidence (Forster and Ryder, 1971; Frasure and Entwisle, 1973) which suggests that performance based on knowledge of syntax seems to improve more than performance based on knowledge of semantics. Although the effects of increasing syntactic and semantic complexity seem to be additive, "full semantic processing must be delayed until the syntactic structure has been established" (Forster and Ryder, 1971, p. 293).

Reading Disability: Knowledge of Syntax

Recent research suggests further that good readers have a stronger knowledge of syntax than poor readers. Loban (1976) found that decreased language ability accompanies low reading ability at all levels. For example, poor readers were low in average number of words per communication unit, syntactical elaboration of subject and predicate, number of grammatical transformations, proportion of mazes to total speech, height and range of vocabulary, use of connectors, number of dependent clauses, and use of adjectival clauses.

Van Metre (1974), using some of Chomsky's (1972) measures of linguistic maturity, compared similar groups of high and low bilingual and monolingual third-grade readers. The high groups

of both bilinguals and monolinguals scored significantly better in linguistic maturity than the low bilinguals and low monolinguals. Van Metre's conclusion was that knowledge of syntax does play a role in the reading process. Goldman (1976) used one of Chomsky's constructions to compare the listening and reading comprehension of 96 third, fourth, and fifth graders. Since the low skill group did significantly worse than the high skill group on the listening task, this researcher concluded that "low skill readers, in addition to problems arising from the graphic input per se, also have less well developed general language comprehension skills" (p. 135).

A third derivation from Chomsky's work involved 20 ninth and tenth graders who had scored a mean grade equivalent of 5.0 in vocabulary and 4.9 in comprehension on a standardized reading test (Mavrogenes, 1977, 1979). They were tested on their ability (both oral and reading) to understand Chomsky's five exceptional structures which are said to represent five developmental stages in the acquisition of syntax. In a chi square comparison of the total correct and incorrect responses of Chomsky's group (aged 5-10) and this group of disabled secondary readers (aged 14-15), the observed difference was not significant ($p > .10$). In addition, 22 competent secondary readers (aged 14-15) were also exposed to Chomsky's structures. On the same standardized reading test, these adolescents had scored a mean grade equivalent of 11.5 in vocabulary and 12.6+ in comprehension. On Chomsky's structures, the two groups of adolescents showed an observed difference which

was highly significant ($p<.001$). One conclusion from this study is that disabled secondary readers have a low level of language development (Mavrogenes, 1979).

Another study (Kuntz, 1975) sampled 96 seventh graders and found "a close and reliable" relationship between reading achievement and written syntactic attainment. In addition, the Goodmans' work with miscue analysis has shown that better readers consistently bring knowledge of syntax to bear on their reading, as reflected in the types of miscues which they tend to make (Allen and Watson, 1976). Takahashi (1975) found a significant difference between the performance of poor ninth-grade readers and good ninth-grade readers on a test of sentence meaning.

Vellutino (1977) argues for a "verbal-deficit" hypothesis as an explanation of reading disability by citing many research reports suggesting that "severely impaired readers are not as proficient as other readers in their knowledge of words, syntactic facility, and verbal fluency in general" (p. 345). For instance, several studies (Rabinovitch, 1959, 1968; Belmont and Birch, 1966; Lyle and Goyen, 1968; Huelsman, 1970) have compared the performances of poor and average readers on the subtests of the Wechsler Intelligence Scale for Children (WISC). Poor readers consistently performed below average readers on the verbal scale but were generally comparable on the performance scale. Five other studies (deHirsch, Jansky, and Langford, 1966; Jansky, 1973; Satz and Friel, 1974; Satz, Friel, and Rudegeair, 1974 a and b) showed that children with verbal deficiencies before entering school

often have reading difficulties later. Two additional studies (Fry, 1967; Schulte, 1967), contrasting oral language samples of second graders, found that average readers are more sophisticated than poor readers in linguistic skills such as verbal fluency, speaking vocabularies, organizational and integrative skills, abstract usages, grammar, and complexity of sentence structure. Finally, the performances of average readers and poor readers aged seven to eight years have been compared on a battery of tests measuring a variety of syntactic skills (Vogel, 1974). Average readers performed significantly better than poor readers on five separate tests: comprehension of syntax, repetition of sentences, morphological usages, oral cloze tests, and recognition of melody.

Reading ability is also related to the ability to recover deep structure. This relationship was first discussed by Simons (1970); he even concluded that skill at recovering deep structure, as measured by a cloze test, is a more important aspect of reading comprehension than IQ, word knowledge, or word recognition. Reynolds (1974), working with seventh and eleventh graders, and Haynes (1977), working with children in grades four, five and six, confirmed that the ability to recover the deep structure of sentences is significantly related to reading comprehension. R.F. Cromer (1970) and Dewart (1972) showed that only children above the mental age of 6.8 were able to recover deep structure consistently in sentences with ambiguous surface structure.

A final indication that knowledge of syntax affects reading ability has been shown by studies on the reading difficulty of structures of varying degrees of linguistic complexity. For instance, active sentences are easier to understand than passive,

and affirmative easier than negative (Gough, 1966; Audrey, 1969). Sentences are easier to comprehend when a relative clause follows an independent clause rather than precedes it (Audrey, 1969), or when a relative clause does not interrupt a sentence whose verb takes a complement object (Richek, 1976). Embeddings and deletion transformations make reading passages more difficult to comprehend (Fagan, 1971; O'Hare, 1973; Stotsky, 1975). A significant relationship between reading comprehension and the comprehension of connectives has been shown in grades four, five, six, and beyond (Robertson, 1968; Stoodt, 1970; Rodgers, 1974).

Instructional Implications

It seems, then, that the subject of language development is rich in theory and in experimentation. If human language is influenced by such factors as physical and cognitive maturation, imitation and reinforcement, underlying cognitive competency and social environment; if, further, reading difficulties can be caused by mismatches between the reader's response modes and the patterns of response necessary for comprehension of text; and if it is true that poor readers do not code or chunk text as well as good readers, nor do they operate with as strong a knowledge of syntax as good readers have -- if these conclusions are true, the important question becomes what we as educators might do to help. As Bernstein says (1959, p. 322), "The linguistic form is a powerful conditioner of what is learnt, how it is learnt and so influences future learning." Therefore, educators should be especially concerned about the language

development of restricted code speakers who may experience reading difficulties due to their unfamiliarity with the linguistic conventions of text. Such students may be unable to organize text into meaningful syntactic units. Text based on the syntax and semantics of the student would be one way to avoid this problem.

In an attempt to establish that degree of comprehension is a function of the similarity of oral and written language patterns, Ruddell (1965a; 1965b) rewrote several sets of paragraphs based on children's oral language patterns (Strickland, 1962). He found that paragraphs similar to children's oral language patterns were significantly ($p<.01$) easier to comprehend than dissimilar paragraphs. Ruddell concluded that comprehension may be affected by the match between the student's language patterns and the patterns of the text. Working from this assumption, Peltz (1973-74) rewrote passages from a tenth grade social studies text by approximating the syntactic patterns found in the writing of tenth grade students. Students took multiple choice and cloze tests after reading both versions of the text. Multiple choice scores were similar for the two conditions, but cloze scores were higher ($p<.05$) for the repatterned text.

The results of these studies provide further evidence that comprehension is facilitated when the student's language matches that of the text. The methods and materials used, however, are impractical for classroom implementation; all textbooks and

instructional materials can not possibly be rewritten. Alternate methods of encouraging language development, in order to reduce the gap between the language of the reader and the language of the text, should be considered. In particular, the effects of providing direct and developmental syntactic training (Peltz, 1973-74) and of encouraging students to listen to good readers and good literature (Cromer, 1970; Chomsky, 1972; Stotsky, 1975) should be examined. The present study attempts to determine the effects of these two instructional methods on the language development and reading achievement of disabled ninth grade readers.

Syntactic Training

There is evidence from research that work on the development of syntactic understanding improves language skills. In the case of writing the evidence is relatively clear. O'Hare (1973) studied the impact of sentence-combining on seventh-graders' writing. He demonstrated that such practice in combining groups of kernel statements into sentences more structurally complex than those students would normally be expected to write resulted in twenty times normal growth in words per T-unit, "the most reliable measure of syntactic maturity. ...The experimental group's compositions showed evidence of a level of syntactic maturity well beyond that typical of eighth graders and in many respects quite similar to that of twelfth graders" (p. 67). Even experimental students with low IQ's made significant gains

in syntactic maturity. Similar results have been obtained for seventh graders (Mellon, 1969; Fisher, 1974; Combs, 1976), fourth graders (Miller and Ney, 1968; Hunt and O'Donnell, 1970), second graders (Hilfman, 1970), and fifth and ninth graders (Fisher, 1974).

Stotsky (1975) suggests that research into sentence-combining may have opened the door to "an uncharted and unexplored area -- the concept of writing as a profound mental activity" (pp. 66-67), which may facilitate cognitive growth as well as reading ability. She cites the "meager evidence" available on whether a writing approach can improve reading comprehension: in one experimental writing program (Obenchain, 1971), reading comprehension gains were noted ($p<.06$) for four out of seven experimental classes, and in another study (Reed, 1967), work on syntax and paragraph structure in the seventh grade was significant for reading comprehension at the .01 level.

Another report (Hughes, 1975) of twenty-four seventh-graders compared an experimental group which had ten to thirteen weeks of sentence-combining exercises and a control group which was given regular language arts activities but no sentence-combining exercises. On a standardized test of reading speed and accuracy there was no difference in gains of the two groups, but miscue analysis showed that the experiemntal group's reading improved significantly in the use of grammatical relations and in the integration of syntactic and semantic cues. Combs (1977) reported on two groups of seventh graders, one of which received

sentence-combining instruction. Although the two groups were similar on a pretest in reading rate and comprehension, the experimental group, after sentence-combining practice, experienced significant gains in reading comprehension but not rate.

Kurushima and Froese (1978) describe a third grade experiment in which the experimental group received four weeks of sentence-combining activities. The post tests included cloze tests at increasing levels of syntactic complexity. One cloze test corresponded to the students' productive level as determined by a pilot study and the other cloze tests had successively longer T-units. The experimental treatment seemed to have some effect on reading comprehension, since the experimental group comprehended the cloze passages equally well at their productive level and at the next higher level; the control groups found the second passage more difficult. Fisher (1974) describes a sentence-combining program for fifth, seventh, and ninth graders. As measured by a standardized reading test and cloze tests, all the experimental groups performed better than the control groups at the .012 level of confidence. Hunt and O'Donnell (1970) reported on a fourth-grade sentence-combining curriculum which resulted in some encouraging results for reading comprehension: on the Stedman Reading Structure Test the experimental students scored significantly higher than the control students at the end of one year. Weaver (1977) claimed that cutting sentences into separate words for reassembly led to increased reading comprehension among third graders.

Some studies on the relationship between syntactic training and reading comprehension offer only subjective reports (Hilfman, 1970), and others offer few or no positive results. Vaughan (1978), for instance, reports on an eighth grade sentence-combining experimental treatment wherein a standardized reading test and cloze tests showed no significant differences between experimental and control groups at any ability level. The only exception was a significant difference between the experimental group and one of the control groups among low ability readers.

However, looking at the results of sentence-combining programs as a whole, Straw (1979, p. 48) summarizes as follows: "it seems that we are drawn to the conclusion that reading comprehension is positively affected by sentence-combining instruction and practice. In the six studies reviewed in this paper, seventeen different measures of comprehension were employed. Of these seventeen, nine indicated that sentence-combining did, in fact, have a significant, positive effect on comprehension."

In summing up recent research in syntax, Kellog Hunt (1977, pp. 101-102) concludes: "There seems to be no doubt that syntactic maturity'... can be enhanced by a sentence-combining curriculum. ...There is evidence that curricula already known can enhance syntactic maturity and perhaps assist reading comprehension. One might reasonably hope that a period of rich and varied curricular experimentation would now commence. There are not many areas in the language arts where the goals are as clear

and as measurable as in this area, and yet where so little experimentation has occurred." This study is one attempt to provide such experimentation.

Listening While Reading

The rationale for exposing disabled secondary readers to the richest variety of language possible is based on the nature of language acquisition, which occurs naturally as people mature and develop in an environment where they are adequately exposed to language and where they can put such inputs to use in their own ways. It is also based on the fact that "modeling" is a most effective procedure in language acquisition (Nelson, Carskaddon, Bonvillian, 1973). It might also counteract the effects of an educationally impoverished background.

Some research exists to substantiate the rationale for abundant reading aloud to students. Cohen (1968) reported on 580 second graders from seven New York City schools with high minority populations. The experimental group was read a story each day of the school year and participated in many kinds of follow-up activities; the goal was to strengthen the vocabulary of socially disadvantaged children, to stimulate their desire to read, and to increase their actual reading achievement. The experimental group made significantly higher gains than the control group in vocabulary, word knowledge, and reading comprehension. Schneeberg (1977) described a similar situation at the fourth-grade level in an inner-city Philadelphia school.

In this case the experimental group, which read and listened to 70-80 books during two school years, for two to four hours a week, and then participated in follow-up activities, gained 2.5 years on the total reading test of the California Achievement Test. Normally, educationally disadvantaged students progress .65-.75 grade equivalent units per year.

Reading while listening to tapes, in a twelve-week fourth grade program, was most effective for pupils scoring at the lower extreme in achievement tests and most effective on comprehension and total reading scores (Fearn, 1971). McCormick's review of research (1977) shows that reading aloud to children improves reading performance, reading interests, and language development. A specific conclusion is that children from homes of lower socioeconomic status and in the lowest range of reading achievement seem to benefit the most. McEvoy (1980) reported on high school remedial reading classes which read and listened to 12 paperbacks over a school year. Attendance improved, and on achievement tests freshmen made gains of 1.8 years, sophomores and juniors 1.1 years, and seniors 1.4. years, instead of the previously typical nine-month gain in scores.

III. Methods and Procedures

Subjects

Subjects for this study were ninth grade students enrolled in four remedial reading classes at West Aurora High School-South Campus, in Aurora, Illinois, an industrial city of 80,000, forty

miles west of Chicago. Eighty-six students were initially enrolled in these four remedial reading classes. For various reasons, only 55 remained throughout the 24-week experiment. The 31 students who did not complete the entire experiment were excluded from the sample. Students were placed into these classes as freshmen based on standardized test performance (below fifth grade in both comprehension and vocabulary) and teacher recommendations made in the spring of eighth grade. Students were placed into specific sections of the course according to the school's normal scheduling procedures. Some general information regarding subjects is presented in Table 1. The racial composition of the entire group was mixed: 55% Caucasian, 33% Black, 13% Spanish-American. Nineteen percent of the parents of these students had not attended high school at all; 38% had some high school and 32% were high school graduates; 9% had some college, and 2% were college graduates. Forty-nine percent of the parents were unskilled laborers (general factory worker, handyman, file clerk, laundry worker, housekeeper, nurse's aide, baby sitter), 29% were skilled laborers (factory foreman, welder, carpenter, security guard, construction worker), 1% owned his own business, 4% were professionals (physician, nurse, teacher, computer operator), and 17% were unemployed.

Measuring Instruments

Prior to the beginning of the experiment, each student was given the Slosson Intelligence Test (Slosson, 1973). Students' reading achievement was measured by the Gates-MacGinitie Reading

Test, Level E (Teachers College Press, 1964) and the Basic Reading Inventory, Form A (Johns, 1978). The Basic Reading Inventory is an individually administered informal reading test which consists of graded word lists and passages of increasing difficulty. Each student's instructional level is determined by his/her word recognition and comprehension performance on these graded passages. The student's instructional level supposedly represents the grade level of reading material in which s/he can make maximum growth in reading with teacher guidance.

Several measures of the ability to understand and manipulate syntax were also gathered for each student. These are listed below.

1. Performance on an adaptation of Carol Chomsky's levels of language development (1972). Since two of those levels (the "easy to see" and "promise" constructions) proved to be nondiscriminating in a pilot study (Mavrogenes, 1979), they were replaced by two other types of constructions. One was the "tag question" as described in Akmajian and Heny (1975). The other was embedding as described by Olds (1969). These changes were made at the suggestion of Carol Chomsky (1978). An example of this adapted instrument is included in Appendix A.
2. Performance on a cloze test written at each student's instructional level, as determined by the Basic Reading Inventory. Some of these tests were provided by John

Bormuth (1978), while others were developed by the researchers especially for this project. Each test was a passage of approximately 250 words, with the first and last sentences in tact. Every fifth word was deleted from other sentences. Students were instructed to replace deleted words. These tests were scored by determining the syntactic acceptability of replacements which were not exact. Each student's cloze score, then, was a ratio of syntactically unacceptable replacements to total number of blanks in the cloze passage.

3. Performance on the Deep Structure Recovery Test, method 3 (Haynes, 1977). This measure, developed from Simons' Deep Structure Recovery Test (1970), was the most discriminating of the three measures of deep structure recovery which Haynes developed and also was the most highly correlated to reading comprehension (Haynes, 1977). A copy of this test is in Appendix A.
4. Number of T-units and average length of T-units from a free writing sample. The T-unit, a single main clause plus all its attached or embedded modifications, has consistently been shown to be a valid indicator of syntactic maturity (O'Donnell and others, 1967; Hunt, 1970; Stewart, 1978). In this case the students' task was to write out the story of a short narrative film which had been shown to them with the sound turned off.

5. Average length of T-units from combining the short sentences of the "Aluminum" passage developed by Dr. Roy C. O'Donnell and used by Kellogg Hunt to provide tentative norms (Hunt, 1970).

Alternate forms of the Gates-MacGinitie Test, the Basic Reading Inventory, the cloze tests, and the Deep Structure Recovery Test were administered as posttests. The same Chomsky measure, the same film, and the same "Aluminum" passage were also used as posttests. Figure 1 summarizes the various dependent measures used as pre- and posttests for all subjects involved in the study.

Experimental Design

Because lengthy experimental treatments were judged necessary, intact classes were chosen for participation in the study. Treatments were randomly assigned to groups; in addition, two teachers rotated among groups at the end of one grading period (12 weeks). These steps were taken to reduce threats to external validity. The nonequivalent control group design (Campbell and Stanley, 1963) was chosen for the study. The experiment lasted for 24 weeks, 2/3 of the school year.

Four classes were divided into three experimental groups and one control group. The first experimental group received the total treatment for 55 minutes per school day: reading while listening and daily exercises in syntactic manipulation. The second experimental group received only reading while

listening, and the third group only the syntactic training, each for 25-30 minutes per day. The remainder of the instruction for these two "half experimental" groups and the total instruction for the control group followed a traditional secondary remedial reading format. These students attempted to develop their vocabularies and several aspects of comprehension (finding the main idea, noting sequence, patterns of organization, inference, etc.). Almost all of their workbooks, anthologies, novels, newspapers and magazines were high interest-low vocabulary materials written at a grade 4-6 level.

Materials

Novels and short stories were selected for the reading while listening treatment based on their potential interest and readability levels. All materials ranged from the seventh to the ninth grade readability levels according to Fry's Readability Graph (1977). Many reading materials were tape-recorded by students and/or faculty of the Speech Communications Department at Northern Illinois University. Six novels and twelve short stories were read; these are listed in Appendix B.

Many of the exercises for the syntactic treatment were teacher-made. These were based on the materials used for the reading while listening treatment. These exercises included sentence combining, matching sentence halves, scrambled sentences, filling in proper connectives (conjunctions and prepositions), identifying pronoun references, and expanding sentences. Representative examples of these teacher-made

worksheets are included in Appendix C. In addition, exercises were completed from Lessons in Syntax by James E. McCarr (1977). Topics covered in this workbook were negative transformations, yes/no questions, the conjunctions "because" and "so," relative clause transformations, participle transformations, indirect discourse, and passive transformations. Some exercises were also utilized from William Strong's Sentence Combining, A Composing Book (1973).

IV. Results

Analysis of Experimental Procedures

Two separate analyses of covariance were used to analyze the post-experimental group differences on the various reading and syntax measures. The first analysis was a series of one-way ANOVAs adjusted for pretest scores and IQ. A summary of these analyses is presented in Table 2. While pretest scores were significant covariates in all cases ($p<.015$ or less), IQ was significant for only the Chomsky Adaptation and the mean number of words used per T-unit in the free writing measure. In neither of these cases were there significant differences among groups.

As can be seen in Table 2, none of the groups differed on any reading measure. On the syntax measures, however, significant differences were found for three dependent variables: score on the Haynes Deep Structure Recovery Test (DSRT), number of T-units in free writing sample, and mean number of

words per T-unit used in rewriting Hunt's "Aluminum" passage. The results of these ANOVAs are presented in Tables 3, 4, and 5.

The Newman-Keuls follow-up test of significant differences proved insensitive to some of these data. Therefore, one-tailed t-tests for significance of differences between means were used to locate specific group differences for each of these syntax measures. These t-tests, computed using the pooled error term from all groups and the Ns from only those groups involved, yielded the following results:

1. On the DSRT, all three experimental groups performed significantly better than the control group (syntax $\bar{X}$ - control $\bar{X}$ = 4.6571; total experimental $\bar{X}$ - control $\bar{X}$ = 4.3956; reading $\bar{X}$ - control $\bar{X}$ = 3.4725, $p<.05$). No significant differences were found among experimental treatments.
2. Students in the reading only group used significantly more T-units in their free writing than did students in the control group (reading $\bar{X}$ - control $\bar{X}$ = 3.934, $p<.05$).
3. On the "Aluminum" passage, both the total experimental group and the syntax group used significantly more words per T-unit than did the reading group (total $\bar{X}$ - reading $\bar{X}$ = 2.2541; syntax $\bar{X}$ - reading $\bar{X}$ = 1.4986, $p<.05$). In addition, the total experimental group used more words per T-unit than the control group (total $\bar{X}$ - control $\bar{X}$ = 1.7877, $p<.05$).

Pretest and posttest group means for the rewritten "Aluminum" passage are presented in Table 6. The amount and direction of change in means is also noted. As groups, students exposed to all three experimental conditions used more words per T-unit during posttesting than during pretesting. The control group, on the other hand, used fewer words per T-unit during their posttests. "Present research indicates that from .25 to .50 words per T-unit per year is normal or expected growth," while lesser gains suggest that the instructional approach has no impact on students' written syntactic fluency (Cooper, 1975, p. 115). Even though the growth reported here occurred over two-thirds of a school year, students in all three experimental groups made a great deal more growth than normal or expected. This is particularly true for students who received the total experimental treatment or the instruction in syntactic manipulation. Thus, it appears that these experimental treatments were successful in affecting students' written syntactic fluency.

The mean number of words used per T-unit was calculated for both the free writing and the rewritten "Aluminum" passage. However, post-experimental analyses indicated significant group differences only for the rewritten "Aluminum" passage. While these results may seem contradictory, they can perhaps be explained by considering possible uncontrolled or contaminating variables present in free writing situations: verbosity, ability to conceive content, ability to organize that content, and the

ability to rewrite (Smith and Swan, 1978). The presence of any or all of these contaminating factors could explain these seemingly contradictory results.

Because of the rather erratic attendance patterns of some students participating in the study, the data were analyzed again, using pretest scores and days in attendance as covariates. As in the first analysis, pretest scores were significant covariates for all dependent measures ($p<.024$ or less). Days in attendance, however, contributed significantly ($p<.05$) to only two analyses: the Chomsky adaptation and the number of T-units used in free writing.

The one-way ANOVAs generated using pretest scores and days in attendance as covariates yielded essentially the same results as the first ANOVAs. Significant differences among groups were found for: 1) scores on the DSRT ($F = 3.779$, $p = .017$); 2) mean number of T-units used in free writing ($F = 2.386$, $p = .083$); and 3) mean number of words per T-unit used in rewriting the "Aluminum" passage ($F = 2.779$, $p = .055$). Follow-up tests revealed that the groups differed in exactly the same way as they had in the first analysis. All these results are summarized in Table 2.

In summary, it seems that the following conclusions may be justified:

1. None of the experimental treatments significantly affected the reading achievement of the subjects in this study. Therefore, the first research hypothesis is not supported.

2. In cases where significant differences were found on

syntax measures, some or all experimental groups out-performed the control group. Thus, it appears that the second research hypothesis is supported by the data; that is, the experimental treatments seem to have increased students' awareness of and/or ability to manipulate and use certain syntactic structures.

Correlations Among Dependent Measures

Professional consensus is lacking regarding the types of instruments which should be used to measure syntactic growth. In addition, the correlations, if any, between measures of reading achievement and measures of syntactic maturity have never been carefully delineated. For these reasons, Pearson product-moment correlations were calculated using pretest scores on all dependent measures for students who participated in this study. Although posttest correlations were also calculated, these are not included for discussion here, since they are contaminated by the various experimental treatments. Analyzing the pretest correlations among the various dependent measures used in this study can yield useful information for others who wish to examine the relationship between syntactic maturity and reading achievement.

Table 7 presents the correlation between the various reading measures used as dependent variables. All correlations are significant at or beyond the .05 level. The rather low, though statistically significant, correlation between the Gates-MacGinitie Comprehension subtest and the Basic Reading Inventory

may be the result of different testing modes. The Level E Comprehension subtest of the Gates-MacGinitie Reading Test (1964) requires students to complete cloze-type exercises for the passages they read. The Basic Reading Inventory, on the other hand, is an individually administered informal reading inventory which requires students to read passages of increasing difficulty and to answer various questions about them. Another possible explanation for this finding is the unpredictable relationship between standardized reading tests and students' instructional levels (Farr, 1969).

Correlations between the various measures of syntactic maturity are displayed in Table 8. The significant negative correlations between the cloze scores and both the DSRT and the number of T-units used in free writing are logical, since the cloze tests were reverse-scored variables (higher scores indicating poorer performances).

One unexpected finding was the poor correlations between the average length of T-units used in free writing and most of the other dependent measures. This may be due, in part, to the possible contaminating variables present in free writing situations described earlier. Words per T-unit did correlate significantly with two measures, however: the "Aluminum" passage ($r = .4373$, $p < .01$), which was a measure of average length of T-units used in a controlled writing situation, and number of T-units used in free writing ($r = -.3427$, $p < .01$). This latter correlation was negative, indicating that these

students tended to use simpler syntactic constructions in their free writing as the amount they wrote increased.

The remaining measures of syntactic maturity (DSRT, Chomsky Adaptation, "Aluminum" passage) correlated well with one another. Both the DSRT and the "Aluminum" passage were also sensitive to the experiemntal procedure used in this study. As such, these two measures may be useful for others who wish to investigate certain aspects of syntactic growth in secondary students.

Table 9 presents the correlations among the various measures of reading achievement and syntactic maturity used in this study. Of all syntax measures, the DSRT and the "Aluminum" passage correlated most uniformly with the reading achievement measures. In the case of the DSRT, these findings are consistent with those of Haynes (1977). He found "a significant relationship between reading comprehension and subjects' skill at recovering the deep structure of sentences" for average readers in grades four, five, and six (Haynes, 1977, p. 84). The findings of this experiment extend the work of Haynes by involving subjects of an older age level and with a low level of language maturity. Again, both of these measures proved sensitive to the experimental treatment; therefore, their use may be warranted by others who are interested in the relationship between syntactic maturity and reading achievement at the secondary level. The "Aluminum" passage may be particularly useful, since it is easily administered and scored. Also, some guidelines for "low," "middle," and "high" achievers are available for students in grades 4, 6, 8, 10, 11, 12, and four university groups (Hunt, 1970; Stewart, 1978).

V. Discussion

The design used in this study controlled for main effects of history, testing, maturation, and instrumentation (Campbell and Stanley, 1963). Although intersession history was still a threat to validity, participating teachers reported no unusual incidents during the 24-week experiment. However, as the experiment lasted for two-thirds of a school year, subject mortality was a problem. At the beginning of the year, 86 students were pretested; 55 remained to posttest. The reasons for the loss were varied: a part was due to school scheduling problems, and the remainder was due to the transitory nature of the population. Some students moved; some ran away or were expelled from school; some were sent to the alternative school; and some were dropped from school for non-attendance.

In addition to subject mortality, some students who participated in the experiment had erratic attendance patterns. Indeed, days in attendance proved to be a significant covariate for two of the dependent measures used to measure student achievement. Such attendance patterns are fairly typical among disabled secondary readers. That significant growth was observed despite attendance problems may be a positive sign for others who wish to employ these methods. Still, different results might have been obtained had all subjects attended school regularly.

Additional problems connected with any experiment involving disabled secondary readers were mentioned by O'Donnell and King

(1974) as they reported on their negative results in a sentence combining program for seventh-graders. They suggested that the results in their study might have been due to the poor self image and limited school success of their subjects. Such students exhibit considerable hostility toward school activities, poor motivation, and inadequate classroom discipline.

Despite these limitations, the procedures used in this experiment did cause significant growth in students' ability to understand and manipulate syntax. The methods described here should be employed with other groups of students in other settings to test the breadth of their usefulness. In addition, longer experimental treatments might produce different results.

While these students appeared to mature syntactically, the experimental procedure did not seem to significantly affect their reading achievement. There are several possible explanations for this finding. First, the reading achievement measures used to measure student performance may not have been sensitive to syntactic growth. Combs (1979) suggests that the quality of standardized reading achievement test performances may be overly influenced by a number of extraneous factors, such as bias in the type of selections used, quality of distractors, and dependence on previous knowledge.

The length of the experiment may also have negatively affected the results. In his review of research on the effect of sentence combining practice on reading ability, Combs (1979) found that most non-significant results occured in studies

lasting from five to fifteen weeks. McCormick (1977) also believes that the length of the experimental treatment is a key to producing better reading performance. The present study was somewhat longer than previously reported research; however it was limited to 24 weeks because of scheduling problems beyond the researchers' control. An extended replication of this study, lasting perhaps for one or two school years, might well produce different results.

A final explanation of these findings in relation to reading achievement involves the ages of the students involved. McCormick (1977) found that younger children seemed to benefit more than older students from language development training. This may be because younger children's language patterns are both less mature and less habitual than those of older students (Combs, 1979). Instruction in sentence-structure manipulation can affect the writing ability of secondary students, however, "because it helps students extend their implicit knowledge of syntactic elements to the more explicit application of those structures in their writing" (Vaughan, 1978, p. 16).

The above reasons may account for the fact that the experimental treatments in syntactic awareness and reading while listening did not significantly affect the reading achievement of the students who participated in this study. Of course, it is also possible that these treatments would not, even under ideal conditions, have significantly affected reading achievement. Before such a conclusion can be warranted, however,

some attempts at replication would seem advisable.

Finally, the ancedotal evaluation presented below, written by a teacher who participated in the study, describes some aspects of the experiment which could not be measured statistically:

> I feel that the two major aspects of the experiment, the syntactical work and the literature reading, were very valuable. The syntactical work promoted more writing in the reading program than we have ever done before, which I feel has been one of our program's weaknesses. I believe the students benefited from this increased amount of practice in that the students were using their language at a higher level than perhaps was ever asked of them before. For the most part, the literature reading went very well. Students seem to feel a great sense of accomplishment at the end of the quarter. They seem satisfied that they had completed the books, especially, I think, because these books were of a more sophisticated nature than what they had been used to in the past... I think both aspects should continue to be a part of our reading program (Breed, 1979).

In conclusion, the methods employed in this study produced mixed results. None of the experimental procedures significantly affected the reading achievement of these disabled secondary readers. However, the students' ability to understand and manipulate written syntax, as measured by several tests of syntactic maturity, did significantly improve. Further research examining the effects of these methods with other groups of these students would appear to be warranted. In addition, classroom teachers may wish to employ some of these strategies with students at the secondary level.

In short, it would seem that such an approach to secondary remedial reading utilizing reading while listening and syntactic manipulation may have value not only as it causes students to grow in syntactic maturity, but also because it increases motivation. As O'Donnell and King (1974) indicate, this latter consideration is not a minor point when working with disabled secondary readers.

FIGURE 1: Summary of Dependent Measures

Area of Competence	Specific Measures Used
Intelligence	Slosson Intelligence Test
Reading Achievement	Gates-MacGinitie Reading Test*: Vocabulary Subtest Comprehension Subtest Basic Reading Inventory*
Syntactic Manipulation/ Understanding	Chomsky Adaptation Cloze Test* Deep Structure Recovery Test* Free Writing: number of T-units words per T-unit "Aluminum" passage

*alternate forms used as posttests. In other cases (except intelligence, which was not posttested), same forms were used as posttests.

TABLE 1: General Information on Students

	Group 1 (N = 13)	Group 2 (N = 13)	Group 3 (N = 15)	Group 4 (N = 23)
Treatment	Total: Reading While Listening & Syntactic Training	Reading While Listening Only	Syntactic Training Only	Control
Sex: males	8 (61%)	9 (69%)	12 (80%)	15 (65%)
females	5 (39%)	4 (31%)	3 (20%)	8 (35%)
Chronological Age: range	14-3—16-1	14-2—15-8	13-11—15-9	14-0—16-10
mean	15-1	14-8	14-9	15-3
IQ: (Slosson) range	57-105	65-108	67-110	62-114
mean*	80	79	88	86

*group differences in IQ were not significant (F = 1.262, p = .297)

TABLE 2: Summary of Results

DEPENDENT VARIABLE	GROUP DIFFERENCES	
	Adjusted According to Pretest and IQ	Adjusted According to Pretest & Days Present
Gates-MacGinitie: Vocabulary	no differences	no differences
Gates-MacGinitie: Comprehension	no differences	no differences
Basic Reading Inventory	no differences	no differences
Cloze Test	no differences	no differences
Chomsky Adaptation	no differences*	no differences+
Haynes' Deep Structure Recovery Test	reading only > control syntax only > control total experimental > control ($p < .05$)	reading only > control syntax only > control total experimental > control ($p < .05$)
Free Writing: # of T-units	reading only > control ($p < .05$)	reading only > control ($p < .05$)+
wds/T-unit	no differences*	no differences
"Aluminum" passage	total experimental, syntax > reading only total experimental > control ($p < .05$)	total experimental, syntax > reading only total experimental > control ($p < .05$)

* IQ was a significant ($p < .05$) covariate

+ days present was a significant ($p < .05$) covariate

TABLE 3: Analysis of Covariance for Haynes' Deep Structure Recovery Test, Adjusted for Pretest Scores and IQ.

SOURCE	SS	df	MS	F
Covariates				
Pretest	321.464	1	321.464	16.202*
IQ	32.051	1	32.051	1.615
Main Effect	210.720	3	70.240	3.540**
Residual	833.298	42	19.840	
Total	1641.912	47	34.394	

*$p < .001$

**$p < .03$

TABLE 4: Analysis of Covariance for Number of T-Units Used in Free Writing, Adjusted for Pretest Scores and IQ.

SOURCE	SS	df	MS	F
Covariates				
Pretest Score	229.358	1	229.358	6.755*
IQ	18.797	1	18.797	0.554
Main Effect	211.803	3	70.601	2.079**
Residual	1358.195	40	33.955	
Total	1801.474	45	40.033	

*p < .05

**p < .10

TABLE 5: Analysis of Covariance for "Aluminum" Passage, Adjusted for Pretest Scores and IQ.

SOURCE	SS	df	MS	F
Covariates				
Pretest Score	35.364	1	35.364	11.619**
IQ	2.197	1	2.197	0.722
Main Effects	24.907	3	8.302	2.728*
Residual	106.526	35	3.044	
Total	167.229	40		

* $p < .05$

** $p < .01$

TABLE 6: A Comparison of Group Pretest and Posttest Means for "Aluminum" Passage, Analyzed by Treatments.

TREATMENT	PRETEST MEAN	POSTTEST MEAN	SIZE AND DIRECTION OF CHANGE
Total Experimental (N = 13)	5.6555	8.0862	+ 2.4307
Reading While Listening Only (N = 13)	5.1409	5.8231	+ 0.6822
Syntactic Training Only (N = 15)	5.7109	7.3307	+ 1.6198
Control (N = 23)	6.9025	6.2985	- 0.604

TABLE 7: Correlations Between Reading Achievement Measures

	Gates-MacGinitie: Comprehension	Basic Reading Inventory, Form A
Gates-MacGinitie: Vocabulary	.4073**	.3456**
Gates-MacGinitie: Comprehension		.4289***

**p < .01

***p < .001

TABLE 8: Correlations Between Measures of Syntactic Maturity

	Chomsky Adaptation	Deep Structure Recovery Test	Free Writing: Number of T-units	Free Writing: Words/T-unit	"Aluminum" Passage
Cloze Test	-.0666	-.3741**	-.2726*	.0218	-.1668
Chomsky Adaptation		.4968***	.2462*	-.0900	.3242*
Deep Structure Recovery Test			.3546**	-.0611	.4478**
Free Writing: Number of T-units				-.3427**	-.0987
Free Writing: Words/T-unit					.4373**

*p < .05
**p < .01
***p < .001

TABLE 9: Correlations Between Measures of Syntactic Maturity & Measures of Reading Achievement

	Gates-MacGinitie: Vocabulary	Gates-MacGinitie: Comprehension	Basic Reading Inventory, Form A
Cloze Test	-.0587	-.2069	.0536
Chomsky Adaptation	.1600	.2998*	.4368***
Deep Structure Recovery Test	.2356*	.2551*	.4202**
Free Writing: Number of T-units	.1973	.0406	.3358**
Free Writing: Words/T-unit	.1792	.1693	.0225
"Aluminum" Passage	.3065*	.5881***	.4315**

*p < .05

**p < .01

***p < .001

APPENDIX A

SOME MEASURES OF SYNTACTIC MATURITY

ADAPTED FROM CHOMSKY (1972)

Name_____ Age_____

Mother's education_____ Father's education_____

Mother's job_____ Father's job_____

A. Embeddings

1. The girl that the boy saw was tall.

   There was a boy _____.

2. The bear which the girl saw was black.

   There was a girl _____.

3. The boy that the teacher found cheating was a freshman.

   There was a teacher _____.

4. The player that the girls cheered for the most was a quarterback.

   There were some girls _____.

5. The boy whom the girl knew was tall.

   There was a girl _____.

6. The girl believed the boy was right.

   There was a boy _____.

7. The boy told the girl when she should leave.

   There was a girl _____.

8. The girl that the boy likes is short.

   There is a boy _____.

B. Tag questions

Warm ups:

a. John and Bill went to the movies, didn't they?

b. John is a football player, isn't he?

c. They both can come for dinner, can't they?

d. Bill is a ninth-grader, _____?

e. The boys will take English, _____?

Questions:

1. They are in town, _____?
2. Mary was near the stream, _____?
3. John can leave, _____?
4. The man that was playing the violin has stopped, _____?
5. Dad left over an hour ago, _____?
6. Come here, _____?
7. There were three men in the park, _____?
8. For you to do that would be crazy, _____?
9. I bet Mary won't leave today, _____?
10. I don't expect John will sing the songs, _____?

C. Ask construction

Conversation with another person (the last kid in).

1. Ask _____ what to feed the dog.

_____

2. Tell _____ what to feed the dog.

_____

3. Ask _____ what color to paint the room.

_____

4. Tell _____ what color to paint the room.

_____

5. Ask _____ what clothes to wear.

_____

6. Tell _____ what clothes to wear.

_____

7. Ask _____ what to paint.

_____

8. Tell _____ what to paint.

_____

9. Ask _____ what flowers to pick.

_____

10. Tell _____ what flowers to pick.

_____

Picture Identification.

1. Which picture shows the girl asking the boy what to paint?

_____

2. What is she saying to him? _____

3. Which picture shows the boy asking the girl what shoes to wear?

_____

4. What is he saying to her? _____

D. And and although constructions

Warm ups:

1. The cowboy scolded the horse for running away. Who ran away?

_____

2. Although my favorite TV program was on, I _____.

3. I wore a heavy jacket although _____.

Questions:

1. Mother scolded Gloria for answering the phone, and I would have done the same. What does this sentence say I would have done?

_____

2. Mother scolded Gloria for answering the phone, although I would have done the same. What does this sentence say I would have done?

_____

3. The cowboy scolded the horse for running away, and I would have done the same. What would I have done?

_____

4. The cowboy scolded the horse for running away, although I would have done the same. What would I have done?

_____

HAYNES PRETEST

METHOD 3

Name:_____

Grade:_____ Boy_____ Girl_____

Birthdate:_____

Directions: Write a sentence that has the same meaning as the given sentence.

Sample 1: a. The boy hit the girl.

b. The girl was hit by the boy.

or

The boy was hitting the girl.

Sample 2: a. The short boy looked at the fat girl.

b. The fat girl was looked at by the short boy.

or

The short boy was looking at the fat girl.

1. a. The boy gave a book to the girl.

b. _____

_____.

2. a. What the girl would like is for the boy to leave.

b. _____

_____.

3. a. He painted the house that was red.

b. _____

_____.

4. a. The girl asked the boy when to leave.

b. _____

_____.

5. a. The boy whom the girl hit fell down.

   b. _____

   _____.

6. a. The boy saw the paper that was folded.

   b. _____

   _____.

7. a. The fat girl loved the thin boy.

   b. _____

   _____.

8. a. The boy saw his toy that was broken.

   b. _____

   _____.

9. a. The girl believed the boy to be right.

   b. _____

   _____.

10. a. The boy told the girl what to do.

    b. _____

    _____.

11. a. The tall boy kicked the short girl.

    b. _____

    _____.

12. a. The girl expected the boy to go into the house.

    b. _____

    _____.

13. a. The boy begged the girl to tell the truth.

    b. _____

    _____.

14. a. The fat girl bit the thin boy.

    b. _____

    _____.

15. a. The girl taught the boy to use a pencil.

    b. _____

    _____.

16. a. We push the wagon easily.

    b. _____

    _____.

17. a. The girl ordered the boy to sit down.

    b. _____

    _____.

18. a. The boy whom the girl knew went home.

    b. _____

    _____.

19. a. The girl is easy to see.

    b. _____

    _____.

20. a. The man found that his car was stolen.

    b. _____

    _____.

21. a. The boy told the girl when to leave.

    b. _____

    _____.

22. a. The boy sees that the girl is tall.

    b. _____

    _____.

23. a. The tall boy liked the short girl.

    b. _____

    _____.

24. a. What the girl wants is for the boy to find the ball.

    b. _____

    _____.

25. a. The boy asked the girl what to do.

    b. _____

    _____.

HAYNES POSTTEST

METHOD 3

Name:_____

Grade:_____ Boy_____ Girl_____

Birthdate:_____

Directions: Write a sentence that has the same meaning as the given sentence.

Sample 1: a. The boy hit the girl.

b. The girl was hit by the boy.

or

The boy was hitting the girl.

Sample 2: a. The short boy looked at the fat girl.

b. The fat girl was looked at by the short boy.

or

The short boy was looking at the fat girl.

1. a. The book was given the girl by the boy.

b. _____

_____.

2. a. For the boy to leave is what the girl would like.

b. _____

_____.

3. a. He painted the red house.

b. _____

_____.

4. a. The girl asked the boy when she should leave.

b. _____

_____.

5. a. The boy the girl hit fell down.

   b. _____

   _____.

6. a. The boy saw the folded paper.

   b. _____

   _____.

7. a. The boy who is thin was loved by the girl who is fat.

   b. _____

   _____.

8. a. The boy saw his broken toy.

   b. _____

   _____.

9. a. What the girl believed was that the boy was right.

   b. _____

   _____.

10. a. The boy told the girl what she should do.

    b. _____

    _____.

11. a. The boy who is tall kicked the girl who is short.

    b. _____

    _____.

12. a. What the girl expected was that the boy would go into the house.

    b. _____

    _____.

13. a. What the boy begged the girl to do was tell the truth.

    b. _____

    _____.

14. a. The boy who is thin was bitten by the girl who is fat.

    b. _____

    _____.

15. a. To use a pencil was what the girl taught the boy.

    b. _____

    _____.

16. a. The wagon is easy for us to push.

    b. _____

    _____.

17. a. What the girl ordered the boy to do was sit down.

    b. _____

    _____.

18. a. The boy the girl knew went home.

    b. _____

    _____.

19. a. It is easy to see the girl.

    b. _____

    _____.

20. a. The man found his car stolen.

    b. _____

    _____.

21. a. The boy told the girl when she should leave.

    b. _____

    _____.

22. a. That the girl is tall is seen by the boy.

    b. _____

    _____.

23. a. The boy who is tall liked the girl who is short.

    b. _____

    _____.

24. a. For the boy to find the ball is what the girl wants.

    b. _____

    _____.

25. a. The boy asked the girl what he should do.

    b. _____

    _____.

APPENDIX B

MATERIALS FOR READING WHILE LISTENING

Note: Readability levels are in parentheses.

I. Materials actually used

A. Novels

1. The Catcher in the Rye, J.D. Salinger (7)

2. A Choice of Weapons, Gordon Parks (8-9)

3. The Chocolate War, Robert Cormier (7)

4. The Natural, Bernard Malamud (7)

5. The Nitty Gritty, Frank Bonham (7)

6. Pardon Me, You're Stepping on My Eyeball!, Paul Zindel (7-8)

B. Short Stories

1. O. Henry (7-8): "The Last Leaf," "The Furnished Room."

2. Shirley Jackson (7): "Louisa, Please Come Home," "Charles," "After You, My Dear Alphonse."

3. Edgar Allan Poe (8-9): "The Tell-Tale Heart," "The Black Cat," "The Pit and the Pendulum," "The Cask of Amontillado," "The System of Dr. Tarr and Prof. Fether."

4. Oscar Wilde (9): "The Canterville Ghost."

5. Courtlandt Dixon Barnes Bryan (7): "So Much Unfairness of Things."

II. Short stories prepared but not used (due to time limitations)

1. Ray Bradbury, stories from The Illustrated Man (7): "The Veldt," "Marionettes, Inc.," "Kaleidoscope," "The Long Rain," "The Rocket Man," "The Concrete Mixer," "The City," "Zero Hour."

2. Ambrose Bierce (9-10): "A Horseman in the Sky," "An Occurrence at Owl Creek Bridge," "The Damned Thing," "Curried Cow," "Oil of Dog."

3. William Saroyan (7-8): "The Fifty Yard Dash," "The Circus," "The Three Swimmers and the Grocer from Yale."

4. Mark Twain (7-11): "The Man Who Put Up at Gadsby's," "The McWilliamses and the Burglar Alarm," "The £1,000,000 Bank-Note," "The Joke that Made Ed's Fortune," "A Story Without an End," "A Dog's Tale."

5. James Thurber (9-11): "The Catbird Seat," "The Night the Bed Fell," "The Night the Ghost Got In."

6. A.Conan Doyle (Sherlock Holmes) (9): "The Adventure of the Speckled Band," "Silver Blaze."

7. W.W. Jacobs (8): "The Monkey's Paw."

8. Lord Dunsany (7): "Two Bottles of Relish."

9. Saki (7): "The Interlopers."

APPENDIX C

TEACHER-MADE WORKSHEETS

THE NITTY GRITTY, Chapters 1-2: Sentence combining

How many short sentences can you find in these long sentences? Find as many as possible. You get one point for each sentence, and the person with the greatest number wins. Be careful to write down only complete sentences.

Example: Charlie's father drank deeply from the can of beer by his plate, then shot her a look.

1. Charlie's father drank deeply from the can of beer.
2. The can of beer was by his plate.
3. Charlie's father shot her a look.

1. Since Charlie was not expecially interested in the conversation, he let his mind slip out of gear like a car.

   a. _____

   b. _____

   c. _____

2. Sometimes he would ease his eyes out of focus and go into a sort of trance, during which he had dreams so exciting and soul-satisfying that it was all he could do to return to reality.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

3. In his sleeveless sweat shirt, old jeans, and broken tennis shoes, he was a lumpy, compact figure as he huddled over his food.

   a. _____

   b. _____

   c. _____

4. Playing it safe, Charlie put on a poker face and opened the door a few inches.

   a. _____

   b. _____

   c. _____

5. Though Charlie had never seen it, the building sounded fascinating, especially the basement, a dark grotto full of machinery, plumbing, fuse boxes, and even a gleaming elevator tube spearing down a hole like an enormous needle driven into the thigh of the earth.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

6. Charlie had talked to some old winos around the bars on Ajax Street, the main stem of Dogtown, a rundown section of the big city where he lived.

   a. _____

   b. _____

   c. _____

   d. _____

7. Uncle Baron told tall tales, roughhoused with the kids, and talked to Charlie man to man--even made a happy human being out of his father for a couple of weeks, and he was a magician with tools, too, fixing doors that sagged on their hinges, glazing broken windows, putting up shelves.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

   g. _____

   h. _____

   i. _____

THE NITTY GRITTY, Chapters 3-4: Syntax

Answer the following questions for each of the passages.

A. Charlie arrived at Leonard's Shine Parlor in the cool smoky morning. Leonard opened early to get the trade of men waiting for buses into the city, Dogtown being an hour's ride from the central business district, where the money was. Slightly larger than a packing box, and with tiny living quarters in the back, the stand was wedged between a greasy-spoon cafe called Johnson's and a liquor store.

1. Who owned the Shine Parlor?

2. When did Charlie arrive there?

3. Why did Leonard open early?

4. Who was waiting for buses?

5. Where was the money?

6. How large was the Shine Parlor?

7. What was in the back of it?

8. Exactly where was the Shine Parlor?

B. Things were bad--so bad that the Matthews family had to cook in the back yard because the gas was turned off, and they were burning candles for light. Charlie ate so much cornmeal mush and syrup that it gagged him to think about it.

9. Why did the Matthews family have to cook in the backyard?

10. Candles provided them with _____.

11. Charlie gagged when he thought about _____

_____.

C. Dogtown was protected against accidental prosperity by a crescent of hills on the east, green now with autumn rains, and another wrinkle of hills on the west. The flatlands between the hills were patched with dry, flat, grimy neighborhoods where the juice of life had been sucked out of everything, the plants, the dead stamp-sized lawns, the people, by a presence Charlie thought of as a great gray spider. It was called Poverty, and according to Charlie's father there was no use struggling to escape its web, because it would only wear you out so that you died sooner.

12. What two things protected Dogtown against accidental prosperity?

a. _____ b. _____

13. On the east of Dogtown was _____.

14. On the west was _____.

15. What sucked the juice of life out of everything?

16. The lawns in Dogtown were the size of _____.

17. What had a web?

18. Why was there no use struggling to escape its web?

19. Who thought there was no use struggling to escape its web?

D. Charlie had never fought with Cowboy, but he figured he could probably take him.

Put proper names in these blanks:

20-21. _____ figured he could probably take _____.

E. Uncapping a bottle of alcohol, Charlie soaked a cotton swab on a wire. He struck a match and lighted the swab, as the boys crowded closer. As the blue flame flickered, he put his foot up on a stool and rubbed the shoe with the swab. Where the flame passed, the wax flared up yellow, then burned out to gray leather.

22. What made the boys crowd closer?

23. When did Charlie put his foot up on a stool?

24. Where did the wax flare up yellow?

25. What is the <u>first</u> thing Charlie did?

THE NITTY GRITTY, Chapters 5-6: Matching sentence halves

For each sentence put together the two parts. Place the letter of the second half in the blank by the number of the first half. Be sure the sentences are logical and make good sense.

_____ 1. "Uncle Baron's postcard came day before yesterday,	A. steadying him so that he would not pitch face-forward into the fire.
_____ 2. Years before, Breathing Man had had a seizure of some sort	B. that had given him quite a scare.
_____ 3. "If you don't make enough to send anything home,	C. so they drew straws to see who read and who merely followed in the book.
_____ 4. There were too few parts to go around,	D. but decided it would keep in his veins until Saturday.
_____ 5. Charlie considered taking a bus uptown to sell some blood	E. at least you won't be eating us into the poorhouse here."
_____ 6. Charlie bent over the magazine in which the play was printed, skimming ahead,	F. he looked pleasant.
_____ 7. Though his father did not smile,	G. and I'd go with you when you leave?"
_____ 8. There, sunning himself like a lizard in a chair propped against the brick wall,	H. so he ought to be dropping in any time now."
_____ 9. The windows were curtained with red-and-white material	I. with a muffler around his neck and a knitted GI cap on his head.
_____ 10. "Couldn't we go partners on this deal,	J. ducking his head like a boxer, feeling strong and confident.
_____ 11. Charlie was sitting cross-legged in front of Uncle Baron, whose hand lay on his shoulder,	K. sat Breathing Man.
_____ 12. Charlie was going to shake this town by its heels till	L. and carried a sooty piece of chain-link fencing from his bus and laid it across the hole.
_____ 13. As the red coals in the fire hole faced under gray ash, Charlie's mother said:	M. like a tablecloth.
_____ 14. In the barbecue hole Uncle Baron built a fire of kindling,	N. some racetrack closes."
_____ 15. To the right of the door was a greasy window behind which was	O. "You kids stir yourselves, now."
	P. "if you wanted to make some loot fast, how would you go about it?"
	Q. all the loose cash fell out of its pockets.

____ 16. Winter and summer, Breathing Man wore a long Army overcoat,

____ 17. Just as Charlie was about to leave the shoeshine stand for school,

____ 18. "Uncle Baron says he's coming to pass a few days with us as soon as

____ 19. "Say, Breathing Man," Charlie said,

____ 20. When his father was out of sight, Charlie headed for school, rolling his shoulders and

R. a tiny kitchen where hot dogs and Tacos were concocted.

S. his father appeared.

T. fascinated by this story of Negroes trying to get out of a Chicago slum.

THE NITTY GRITTY, Chapters 7-8: Scrambled sentences

In the following sentences the words are not in the right order. Unscramble the words to form a sentence. Then answer the question that follows the words. Be sure to use all the words. You can use the back of this sheet or scrap paper for a worksheet.

1. Charlie's but it day everyone's off was

   _____

   The last word of the sentence is _____.

2. peanut-butter he and a drank noon coke sandwich ate at warm a

   _____

   What word comes after at? _____

3. children gave hair the them bits interesting Charlie junk his of of to out keep

   _____

   _____

   What word comes before keep? _____

4. found kitchen and and milk breakfast returned the to food Charlie

   _____

   What is the first word of the sentence? _____

5. families sheltered or bigger three the houses four

   _____

   What are the last three words of the sentence? _____

6. buggy Charlie rat overturned a poke saw its nose an under whiskered from baby

   _____

   _____

   What word comes before overturned? _____

7. parts Baron for usable prospected Uncle car

   _____

   The third word in the sentence is _____.

8. of said got get to mess Charlie I've out this " "

_____

What two words follow <u>of</u>? _____

9. it paper Baron a found and stub licked pencil Uncle the signed

_____

_____

What is the next-to-last word in the sentence? _____

10. rifle bus rats old with the kept Baron he in an shot Uncle .22-caliber seven

_____

_____

What word comes before <u>old</u>? _____

THE NITTY GRITTY, Chapters 9-10: Sentence-combining

Example: Combine using "after":

a. Charlie ate a big breakfast.

b. Charlie woke up at eight o'clock.

After Charlie woke up at eight o'clock, he ate a big breakfast.

1. Combine using "when":

   a. There was a dull rattle of coins.

   b. He shook the telephone.

   _____

2. Combine using "whenever" and "and":

   a. One of the boys would snatch up the rifle.

   b. A rat showed his head.

   c. One of the boys would knock it off.

   _____

   _____

3. Combine by changing "stopped" to "stopping":

   a. He stopped near the pile of cleaned bricks.

   b. He gazed around, hands on hips.

   _____

4. Combine using "who":

   a. Ed Ortiz owns the business we're buying.

   b. I was talking to Ed Ortiz.

   _____

5. Combine using "because" and "but":

   a. Charlie could not sleep.

   b. Charlie went to bed.

   c. Charlie was exhausted.

   _____

   _____

6. Combine using "if":

   a. The ladybugs are in good condition.

   b. We pay eight dollars a gallon for ladybugs.

_____

7. Combine using "while" and "and":

   a. The others muttered threateningly.

   b. The boy with the telephone dropped it.

   c. The others moved around as if to jump in.

_____

_____

8. Combine using "then" and "with":

   a. Charlie crawled to the wall.

   b. Charlie lay on the ground.

   c. Caesar was near him.

_____

_____

9. Combine using "although":

   a. Most of the coins were in surprisingly good condition,

   b. Some of the coins were welded together by corrosion.

_____

_____

10. Combine using "when" and "as though":

   a. Caesar got straight to work.

   b. Caesar finally arrived.

   c. Perspiration might go out of style before dark.

_____

_____

THE NITTY GRITTY, Chapters 11-12: Syntax

Rewrite the following sentences using the words provided.

1. Callie said that she hadn't seen any Negro people lately.

   Callie said, "_____."

2. Uncle Baron said that this wasn't massacre country but gold-rush country.

   Uncle Baron said, "_____

   _____."

3. Then everything was loaded into the bus by them all, and the embers of the fire were doused with water by Uncle Baron.

   _____ loaded everything into the bus, and _____ doused the embers of the fire with water.

4. Uncle Baron asked them if they were keeping the bugs out of the sun.

   Uncle Baron asked, "_____?"

5. Charlie shouted to Callie to hold the sack open.

   "_____," Charlie shouted.

6. Wrong: Holy tomato, what have you did?

   Right: _____?

7. Mr. Tharp told them that in the morning he would take the ladybugs to work and get what money he could for them.

   Mr. Tharp said, "_____

   _____."

8. Uncle Baron told Buster and Callie that they would sleep on the bus.

   Uncle Baron said, "_____."

9. "Okay, close the doors," sighed Uncle Baron. "We'll just have to drive home this way."

   With a sigh, Uncle Baron said that _____

   _____.

10. Charlie suggested that Uncle Baron call Ray Tharp and see when and where they could deliver the bugs.

Charlie said, "_____

_____."

THE NITTY GRITTY, Chapters 13-14: Syntax

I. Make these sentences as long as possible. Do not write new sentences, just add to the short one. Use your imaginations. You will get one point for each word correctly added.

1. Charlie had no real hope that Breathing Man could come up with a better idea, but _____ _____.

2. Charlie found Breathing Man propped in his chair before Sam's Hob Nob, nibbling a coffeecake and _____ _____.

3. Among these small plump women and pygmy-sized children stood Caesar, _____ _____.

4. Ellis and Woodson, the slum landlords, dropped in looking as pink-skinned as _____ _____.

5. It was quite possible that their ladybugs were all of the wrong kind--_____ _____.

6. From a closet in the bus, Uncle Baron dug out _____ _____ _____ _____.

7. When the boys got to the dingy old stadium, and oldman led them through a side door into a dimly-lit hall that smelled like _____ _____.

II. Fill in the blanks with one of these words: when, if, but, so.

8. Charlie was telling him about the ladybug hunt _____ he heard the popping of the teacher's little motorcycle.
9. You can leave a message _____ I'm not there.
10. Can't I come along anyway _____ we don't get the money?
11. At first all Caesar could do was to scowl, _____ as Charlie explained, he began to smile.
12. "I'll have another $37.50 by Friday night," Charlie said, "_____ tell Ortiz to be ready."
13. _____ you really put on a good show, the crowd will throw money at you.
14. For a while Charlie and Uncle Baron mumbled about ladybugs, _____ later their minds were on other things.

THE NITTY GRITTY, Chapters 15-16: Syntax

I. Number the following sentences so that they make a sensible paragraph.

_____ For a moment he and Caesar skidded around trying to get set.

_____ It hurt Charlie this time.

_____ The organ did some bumps-and-grinds music.

_____ Shining with oil, the two boys got up.

_____ Both fell flat again.

_____ He heard the crowd begin to laugh.

_____ Charlie was excited and slightly dizzy.

_____ They swung.

II. In the following blanks, put in a verb and use the correct tense in order to make sense. The clues to the proper verb tense are underlined.

1. Right now, in the second round, as Charlie is sitting on his stool in the corner of the ring, his lip is ballooning and he spits out some blood. Caesar really _____ him hard in round one and then he himself also _____ in the oil and _____ down right on his mouth. "Oh well," Charlie thinks, "in a little while I _____ a pile of money from this fight, so I just _____ grin and bear it."

2. All night Charlie tosses and turns. He feels bruised and feverish. His jaw aches. He keeps thinking about that fight yesterday -- Caesar really _____ him, and also the two of them together _____ in the pool of oil and every minute they _____ flat on their backs. Then the crowd _____ and the organ _____

loudly and the cymbals _____. But the money _____ around his feet. When he _____ for it, he _____ all over again. Then Charlie thinks about later this afternoon, how he _____ Uncle Baron, then he _____ him the money and the two of them _____ in the blue bus. Charlie _____ Dogtown forever; he and his Uncle Baron _____ around the country, having adventure after adventure, and Charlie _____ this trap forever. Halleluiah!

The Boy . . . Disappear
Ch. 1-2

Name_____
Period_____

DIRECTIONS: Write sentences that have the same meanings as the sentences that follow.

1. He knew it was all over.

2. He liked them both about equally, he decided.

3. He saw his mouth gaping open but heard no sound.

4. Maybe that old black iron railing wasn't as strong as it looked.

5. He could see he'd have to do all the worrying around here.

6. He wished right now he could see a big aircraft carrier.

7. Then he saw what had caught his eye before: a telescope, a black telescope.

8. He had no idea living in New York would be so difficult.

9. He felt almost like some sort of hick from the country.

10. A lot of the other kids were standing on their roofs, wetting them down with garden hoses.

The Boy . . . Disappear
Ch. 12-13

Name _____
Period _____

DIRECTIONS: Read the following paragraph, paying particular attention to the underlined words. Then answer the questions that follow.

He saw a boy his age wearing one outside his short winter coat and it looked great. I guess I'll need a winter coat like that one too. I don't think She'll give me a big argument about that. After all, She hates colds. She'll get me the coat, I'm pretty sure of that. Oh, she'll fret and complain but I guess maybe She'll worry about how it would look for Her own son to be walking around in the winter without a coat like She couldn't afford it, living on Riverside Drive and her husband--well, Her ex-husband--a big Hollywood producer. No, don't worry. She'll get you the coat. He looked down at his feet scuffing the hardened snow. They were getting cold. She'll get you boots, too. Don't worry. They'll be expensive ones too like that Appleton kid was wearing.

1. What does "it" refer to in line 2? _____
2. Who does "I" refer to in line 2? _____
3. What does "that one" refer to in line 2? _____
4. What does "that" refer to in line 3? _____
5. What does "that" refer to in line 4? _____
6. What does "it" refer to in line 7? _____
7. What does "big Hollywood producer" refer to in line 8?

_____

8. What does "his" refer to in line 9? _____
9. Who does "they" refer to in line 10? _____
10. What does "they'll" refer to in line 11? _____

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